HYUNDAI WELDING

Rev. 01

S-7010.P1

LOW ALLOY, CELLULOSIC SMAW FOR PIPE

HYUNDAI WELDING CO., LTD.

S-7010.P1

❖ Specification

AWS A5.5 E7010-P1

❖ Applications

- Root pass welding for Pipe line
- General fabrication
- Vertical down welding

❖ Characteristics on Usage

S-7010.P1 is a high cellulose type electrode for welding with direct current. Vertical downward welding can be performed easily, It is suitable for all position Welding of pipes, S-7010.P1 exhibits a deep penetration and fast freezing.

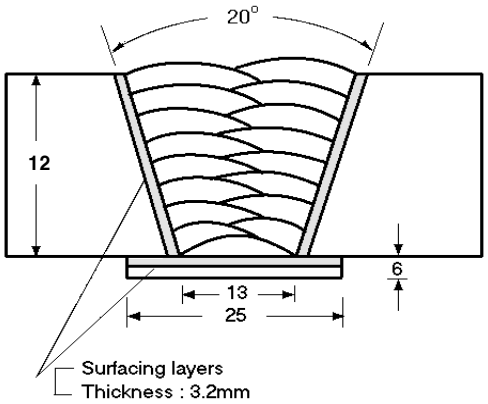
❖ Note on Usage

1. Pay attention not to exceed the recommended currents.
2. As this electrode is prone to absorb moisture, store it with care.

Mechanical Properties & Chemical Compositions of all-Weld Metal

❖ Welding Conditions

Method by AWS Rules



[Joint Preparation & Layer Details]

Diameter, mm(in)	:	3.2x 350(1/8X 12)
Amp./ Volt.	:	110 / 21~23
Interpass Temp.℃(°F)	:	80~130 (176~266)
Polarity	:	DC+

❖ Mechanical Property of All Weld Metal

Consumable	Tensile test			CVN Impact Value J (ft.lbs)
	YS MPa (ksi)	TS MPa (ksi)	EL (%)	-30℃ (-22°F)
S-7010.P1	480(70)	565(82)	28.8	47(35)
AWS Spec.	≥ 415(60)	≥ 490(71)	≥ 22	≥27

❖ Chemical Composition of All Weld Metal(wt%)

Consumable	Chemical Composition								
	C	Si	Mn	P	S	Ni	Cr	Mo	V
S-7010.P1	0.127	0.24	0.45	0.017	0.006	0.017	0.023	0.162	0.006
AWS Spec.	≤0.20	≤0.60	≤1.20	≤0.03	≤0.03	≤1.0	≤0.30	≤0.50	≤0.10

Bead appearance

❖ Pipe Welding V-down

DC+, 110A

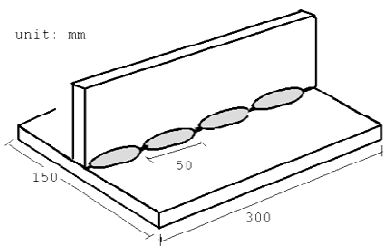
DC+, 130A

Weldability & Crater Crack Test

❖ Weldability

Division Item	Flat position	Vertical position
Arc stability	Excellent	Good
Melting rate	Good	Good
Deposition rate	Good	Excellent
Resistance of spatter occurrence	Good	Good
Bead appearance	Good	Good
Slag detachability	Excellent	Excellent
The others	Good	Good

❖ Results of Crater Crack Test

Test plate	Plate thickness mm(in)	Fillet design (mm)	Welding conditions		
			Amp.(A)	Volt.(V)	Result
ASTM A36	9(0.35)		140	22~23	No crater crack

Size Available and recommended Current

❖Sizes Available and Reconnended Current

Diameter mm(in)		2.6 (3/32)	3.2 (1/8)	4.0 (5/32)	5.0 (3/16)
Length mm(in)		300 (12)	350 (14)	350 (14)	350 (14)
Recommended current range (DC+ Amp.)	Flat position	50~75	75~125	90~165	140~220
	Vertical & Overhead position	40~70	65~115	90~145	125~185

❖ Authorized Approval Details

Classification	Dia. mm(in)	Welding position	Grade			
AWS			CWB			
E7010-P1	2.6(3/32) ~ 5.0(3/16)	All	E4910-P1			

Notice

This test report is made for giving general information, and it's not meaning guarantee.
Test results are changeable by several welding - parameter including base materials